a natural history of the fishes known to inhabit the seas and fresh waters of India, Burma, and Ceylon. 2 vols., Today and Tomorrow's Book Agency. New Delhi. (1967 reprint).

FOWLER, H. W. (1956): Fishes of the Red Sea and southern Arabia. Vol. 1. Branchiostomida to Polynemida. Weizmann Science Press of Israel, Jerusalem. 240 p.

KHALAF, K. T. (1961): The marine and fresh water fishes of Iraq. Ar-Rabitta Press, Baghdad. v & 164 p.

KURONUMA, K. AND ABE, Y. (1972): Fishes of Kuwait. Kuwait Institute for Scientific Research. State of Kuwait. xiv & 123, p., 37 figs., 20 plates.

MAHDI, N. (1962): Fishes of Iraq. Ministry of Education, Baghdad, 82 p.

MISRA, K. S. (1976): The fauna of India and adjacent countries. Pisces. Vol. II, 2nd Ed. Zoological Survey of India, Calcutta. xxvii & 438 p., 11 plates.

SAADATI, M. A. G. (1977): Taxonomy and distribution of the freshwater fishes of Iran. MS Thesis, Colorado State Univ., Fort Collins, Colorado. xiii & 212 p.

SCHUSTER, W. H. (1960): Synopsis of biological data on milkfish *Chanos chanos* (Forskal), 1775. FAO Fisheries Biology Synopsis No. 4, vi & 58 p.

SURBER, E. W. (1969): Report to the government of Iran on a programme for the development of the inland fisheries of Iran. FAO UNDP/TA, 2723: viii & 64 p.

## 19. OCCURRENCE OF ZEBRIAS KERALENSIS JOGLEKAR (PISCES: SOLEIDAE) OFF VISAKHAPATNAM, WITH A NOTE ON ITS TAXONOMY

One soleid flat fish, belonging to the genus Zebrias Jordan & Snyder, was collected from trawl catches off Visakhapatnam, and identified as Zebrias keralensis Joglekar. Hitherto it has been recorded only from the Arabian Sea, at Aleppy on Kerala Coast (South West India). The present record extends the distribution of the species to the North East Coast of India also.

*Material*: One specimen measuring 120.0 mm (S.L.), collected from trawl catches, off Visa-khapatnam, on 30-12-78.

Description: Counts: D.67; A.57; C.17; P. (eyed) 13; P. (blind) 11: V. 4; L. 1.83.

Measurements: Depth of body 41.6, length of head 20.8 per cent of S.L. Snout 24.0, Eye diameter 20.2, Post orbital distance 60.6, Snout to angle of mouth 32.0, angle of mouth to gill opening 64.0, length of right pectoral 36.0, length of left pectoral 20.0 per cent of head length.

Coloration: In formalin, light brown with 13

dark cross bands extending on to vertical fins. Third cross band spindle shaped. Pectoral on ocular side dark. Caudal dark with white spots. Blind side white.

Diagnosis: The specimen agrees with the description of Z. keralensis, which can be easily distinguished from the closely resembling Z. synapturoides on the basis of Lateral line scale count (75-93), and longer pectoral fin on ocular side (33-42 % in head), characteristic of the species. The range of scale count of Z. keralensis includes that of Z. cochinensis Rama Rao (1967).

Taxonomic note: Rama Rao (1967), described Zebrias cochinensis as a new species, on the basis of single specimen collected at Cochin, off Vypeen Island. The morphometric measurements and meristic counts of Z. cochi nensis are not different from those of Zebrias keralensis Joglekar (1976). There is however a marked difference in the band pattern and caudal fin ray count, while the counts of ven-

tral fin rays and pectoral fin rays show slight variation. In Z. keralensis the counts are C.17-18; V.4; P. (eved) 10-13, whereas in Z. cochinensis the counts are C. 14; V.5; P. (eyed) 14. The band pattern in Z. keralensis is characteristic of most Zebrias spp., in having vertical bands extending on to the dorsal and anal. The number of bands may vary from species to species but all the bands in all the species are transverse. The band pattern in Z. cochinensis is most uncharacteristic of any Zebrias sp., as the bands in the region of the 2nd, 3rd and 4th on the trunk, instead of being vertical, assume a semilunar shape. This deviation from the normal pattern of Zebrias spp. coupled with the reduced number of caudal fin ray count does not allow Z. cochinensis to be congeneric with other Zebrias spp. Thus Z, cochinensis appears to be an abnormal freak specimen with modified band pattern but otherwise agreeing in all the other characters with those of Z. keralensis, excepting the marked difference in caudal fin ray count. The caudal fin ray count of any Zebrias spp., falls in the range of 16-18 (Day 1878, Norman 1928, Chen & Weng 1965, Talwar & Chakrapany 1967, Joglekar 1976). Ochiai (1963) extended the lower range upto 15 in the case of Z. fasciatus and Z. zebra,

DEPT. OF ZOOLOGY, ANDHRA UNIVERSITY, WALTAIR, February 25, 1980.

·

CHAKRAPANY, S. & RAMA RAO, K. V. (1977): Remarks on the abnormal band pattern of the sole *Aesopia cornuta* Kaup. (Pisces: Soleidae) from Madras Coast. Science and Culture. 43: 442.

CHEN, J. T. F. & WENG, H. T. C. (1965): A review of the Flat fishes of Taiwan, Published by Tunghai Univ., China. *Biological Bulletin* 27: 39-44.

in which the caudal is completely confluent with dorsal and anal. This character is very difficult for accurate count in the species in which the caudal is completely confluent with dorsal and anal. As the character does not show much variation between the different Zebrias spp., the count given for Z. cochinensis is perhaps either a typographical mistake or alternately an additional freak character. As the validity of Z. cochinensis as a species distinct from Z. keralensis is doubtful, it is preferred to name the present specimen after Z. keralensis. Accepting that the caudal fin ray count is a typographical mistake and considering that band pattern could be an abnormal feature (which is not uncommon in family Soleidae, according to Ramarao 1967, and Chakrapani & Ramarao 1977), Z. cochinensis appears to be a synonym of Z. keralensis.

### ACKNOWLEDGEMENTS

We thank Dr. C. C. N. Murty, Head of Zoology Dept., Andhra University, Waltair, and Sri Bh. V. Seetaramaswamy, Head of Zoology Dept., Mrs. A. V. N. College, Visakhapatnam for providing research facilities and for constant encouragement.

> K. SRINIVASA RAO M. RAMA MURTY

#### REFERENCES

DAY, F. (1878): The Fishes of India. (Reprinted ed., 1958). Dawson, London. p. 430-431.

JOGLEKAR, A. (1976): On a New Species of the Genus Zebrias Jordan and Snyder, 1900 (Pisces: Soleidae) from Kerala Coast (India). Zool. Anz., Jena 197,Y2, S.67-70.

NORMAN, J. R. (1928): The Flat fishes (Heterosomata) of India, with a list of the specimens

in the Indian Museum. Rec. Indian Mus. 30: 182-185.

OCHIAI, A. (1963): Soleina. Fauna Japonica: 53-59.

RAMA RAO, K. V. (1967): A new Sole Zebrias cochinensis from India. J. Zool. Soc. India. 19 (1 & 2): 99-100.

(1967): Remarks on the band pattern of the Sole Zebrias synapturoides (Jenkins). J. Bombay nat. Hist. Soc. 64(1): 119-120.

TALWAR, P. K. & CHAKRAPANY, S. (1967): A new flat fish of the genus Zebrias Jordan and Snyder (Soleidae) from the Orissa Coast, India. Proc. Zool. Soc., Calcutta. 20: 119-121.

# 20. ON THE RECORD OF THE BLACK RUBY BARB, PUNTIUS NIGROFASCIATUS (GUNTHER) (PISCES: CYPRINIDAE) FROM INDIA

### (With a text-figure)

Yazdani (1977) reported the occurrence of *Puntius nigrofasciatus* (Gunther) based on six specimens of fish collected from a small rivulet in the forest area of Ponda (Goa), and claimed it as a new record of this fish from India. This fish had earlier been recorded only from Sri Lanka.

In the course of extensive collections throughout the Deccan region, we had not come across any specimens of P. nigrofasciatus. It was, therefore, a matter of surprise to us to read about this new record. From Sanguem, Goa (25 kilometres from Ponda as the crow flies) the second author (S.R.S.) has been collecting hundreds of specimens of another barb, Puntius naravani Hora. This fish resembles the Black Ruby barb in general coloration, having three vertical black bands on its body, but lacking the characteristic black coloration on the dorsal, anal and pelvic fins (which is prominent in P. nigrofasciatus). We, therefore, surmised that the specimens identified by Yazdani as P. nigrofasciatus might actually be P. narayani.

*P. narayani* was first described by Hora in 1937 from the Cauvery river in Coorg, and it closely resembles *P. nigrofasciatus* not only in its colour pattern, as stated earlier, but also in having a complete lateral line and in the absence of barbels. The fin-ray and other counts for the two species are as follows:— *P. nigrofasciatus* (as given by Day): D. 3/8; A. 2/5; P. 15; V. 9; C. 19; L. 1. 20-21.

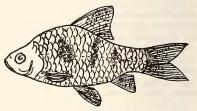


Fig. 1. Puntius narayani Hora (after Hora, 1937).

- *P. nigrofasciatus* (as given by Munro): D. 3/ 8; A. 3/5; P. 1/12; L.1. 20-22; L. tr. 8  $(4\frac{1}{2}+3\frac{1}{2})$ .
- *P. narayani* (as given by Hora): D. 3/9; A. 3/6; P. 14; V. 9; C. 18; L.1. 22; L.tr. 9  $(4\frac{1}{2}+4\frac{1}{2})$ .

In the absence of an opportunity to examine the actual specimens determined by Yazdani, our surmise that these specimens might not be *P. nigrofasciatus* could not be definitely ascertained. In August, 1979 we